

CLAIMS

1. A thermal transfer receiving sheet comprising a sheet-like support having, sequentially formed on at least one surface thereof, a hollow particle-containing intermediate layer and an image receiving layer, wherein
5 said hollow particles have an average particle diameter of 0.2 to 35 μm and a hollow percentage by volume of 30 to 97% and the printing smoothness (R_p value) on the surface of said thermal transfer receiving sheet, as
10 measured by using a Microtopograph under an applied pressure of 0.1 MPa 10 milli-seconds after the initiation of pressure application, is 1.5 μm or less.

2. The thermal transfer receiving sheet as claimed in claim 1, wherein the thickness of said intermediate
15 layer is from 20 to 90 μm .

3. The thermal transfer receiving sheet as claimed in claim 1 or 2, wherein the ratio by mass of all hollow particles to the entire solid content mass of said intermediate layer is from 30 to 75% by mass.

20 4. The thermal transfer receiving sheet as claimed in any one of claims 1 to 3, which has a barrier layer stacked between said intermediate layer and said image receiving layer.

5. The thermal transfer receiving sheet as claimed
25 in any one of claims 1 to 4, wherein said sheet-like support is a sheet-like support mainly comprising a cellulose pulp.

6. The thermal transfer receiving sheet as claimed in any one of claims 1 to 5, wherein a back surface layer containing at least a polymer resin and an organic and/or
30 inorganic fine particles is provided on the side of said sheet-like support in which the image receiving layer is not provided.

7. The thermal transfer receiving sheet as claimed
35 in any one of claims 1 to 6, wherein the compressive modulus of elasticity, based on JIS K 7220, of said

thermal transfer receiving sheet is 30 MPa or less.

8. The thermal transfer receiving sheet as claimed in any one of claims 1 to 7, wherein said intermediate layer comprises two kinds of hollow particles A and B differing in the average particle diameter and the average particle diameters L_A (μm) and L_B (μm) of respective hollow particles satisfy all of the following relational formulae (1) to (3):

$$L_A = 2 \text{ to } 35 \mu\text{m} \quad (1)$$

$$L_B = 0.2 \text{ to } 9 \mu\text{m} \quad (2)$$

$$0.05 \leq L_B/L_A \leq 0.4 \quad (3)$$

9. The thermal transfer receiving sheet as claimed in any one of claims 1 to 8, wherein said intermediate layer comprises, as said hollow particles, hollow particles with the partition wall being formed of a polymer material having a glass transition temperature of 130°C or more.

10. The thermal transfer receiving sheet as claimed in claim 9, wherein the polymer material of said hollow particles with the partition wall, being formed of a polymer material having a glass transition temperature of 130°C or more, is obtained from a component mainly comprising a nitrile-based monomer.

11. The thermal transfer receiving sheet as claimed in claim 10, wherein said nitrile-based monomer is at least one member selected from the group consisting of acrylonitrile, methacrylonitrile, α -chloroacrylonitrile, α -ethoxyacrylonitrile and fumaronitrile.

12. An image forming method using the thermal transfer receiving sheet claimed in any one of claims 1 to 11, comprising the steps of applying a pressure treatment of 1.0 MPa or more to the thermal transfer receiving sheet surface during and/or after printing by a dye thermal transfer printer.

13. A method for producing a thermal transfer receiving sheet comprising a sheet-like support having

sequentially formed on at least one surface thereof a hollow particle-containing intermediate layer and an image receiving layer, the method comprising the steps of, after providing said intermediate layer by coating an intermediate layer coating solution comprising hollow particles having an average particle diameter of 0.2 to 35 μm and a hollow percentage by volume of 30 to 97% on at least one surface of said sheet-like support and drying it and/or after providing said image receiving layer on the intermediate layer, applying a smoothing treatment step of passing the sheet through a nip part having a pair of rolls consisting of a heating roll and a press roll so that the printing smoothness (R_p value) on the surface of said thermal transfer receiving sheet, as measured by using Microtopograph under an applied pressure of 0.1 MPa 10 milli-seconds after the initiation of pressure application, can be 1.5 μm or less.

14. The method for producing a thermal transfer receiving sheet, as claimed in claim 13, which further comprises a thickness restoring treatment step of, after said smoothing treatment step, subsequently heating the thermal transfer receiving sheet by contacting the sheet surface with a heating roll in a pressure-released state.